property, after the decease of his two sisters, to the Royal Society.

The last of these ladies died in 1872, since when certain legal formalities have been complied with, and the claims of the Royal Society to the landed estates under the Mortmain Act have been brought before the Court. In February last the Master of the Rolls decided that "the gifts to the Royal Society, so far as they relate to pure personalty, are good charitable gifts, but otherwise void." The personalty as set forth in the "Bill of Complaint," comprises 6,033*l.* 7*s.* 5*d.* Three per Cent. Consols, 1,904*l.* 17*s.* 2*d.* Reduced, and 41*l.* 18*s.* 5*d.* Bank of England Stock.

By the terms of the will, the Society is to preserve the property intact in value, as a Fund Principal, the income of which is to be applied to the rewarding inventions in art, discoveries in science, physical or metaphysical ("which last and highest branch of science," to quote the testator's words, "has been of late most injuriously neglected in this country"), or for the assistance of fit persons in the prosecution of inventions and discoveries. The rewards or assistance are to be granted annually, or after longer periods, to British subjects or foreigners, according to the impartial decision of the President and Council.

A delay in distributing the bequest has arisen from the absence of a party on whom it was essential to serve a decree; this has, however, been now served, and there is every reason to believe that the suit will go forward; in which case we may hope to receive the proceeds early next year.

The Dircks Bequest.—Mr. Henry Dircks, of Liverpool, and latterly of London, who died in 1872, has bequeathed the residue of his property (about 4,000*l.*) after payment of debts and charges, to the Royal Society, Royal Society of Literature, Chemical Society, and Royal Society of Edinburgh, in equal shares and proportions, in furtherance of their several objects. As, however, it is possible that certain claims to the residue under the Bankruptcy Act, dating from 1847, may be set up, we are advised that the estate cannot be administrated without the aid of the Court of Chancery, which has been appealed to accordingly.

The Ponti Will.—Lastly, it is my duty under this head to inform you that our secretary has received a communication from the Secretary of State for Foreign Affairs, to the effect that the late M. Girolamo Ponti, of Milan, has bequeathed a portion of his immense property to the "Academy of Science of London." As, however, it does not appear what Society is indicated under this title, and as the relatives of the testator intend to dispute the will, the Council, as at present advised, will take no steps in the matter. I have further to observe that under the terms of the will, the Academy of Science will, if it accepts the trust, be burdened with annual duties and responsibilities respecting the distribution of the proceeds which would be altogether inconsistent with the position and purposes of the Royal Society.

The Fairchild Lecture.—This lecture no longer appears in the annual financial statement of your treasurer. Though an obvious anachronism and regarded almost from the first with little sympathy either within or without our walls, it should not pass away without a notice from the Chair. In February 1728 Thomas Fairchild, of Hoxton, gardener, bequeathed 25*l.* to be placed at interest for the payment of 20*s.* annually for ever for preaching a sermon in the parish church of St. Leonard's on Tuesday in Whitsun week on "the wonderful works of God in the creation, or on the certainty of the resurrection of the dead proved by certain changes of the animal and vegetable parts of the creation." From 1733 to 1758 most of the lectures were read by Archdeacon Denne, one of the original trustees, who in 1746 contributed all his lecture-fees to the fund, which, with a subscription raised by the trustees, enabled them in 1746 to purchase 100*l.* South Sea Stock. Subsequently this stock was offered to and accepted by the Society: the transfer was made in 1757; and from that date the lecturers were appointed by the President and Council. The lectures have been regularly delivered, but of late years to empty pews, under which circumstances the Council, after full deliberation, unanimously resolved that it was desirable to relieve the Society from the Fairchild Trust, and that to this end application should be made to the Charity Commissioners. The regular forms having been gone through, the Trust was transferred to the Commissioners in November last, and thus disappears from our balance-sheet.

The Croonian and Bakerian lectures are given annually as usual; and those of this year appear in our Proceedings. These do not diminish in interest and importance.

The Davy Medal.—The Council has accepted the duty of annually awarding a medal, to be called the Davy Medal, for the most important discovery in chemistry made in Europe or Anglo-America. The history of this medal is as follows:—

Our former illustrious president, Sir Humphry Davy, was presented by the coalowners of this country with a service of plate, for which they subscribed 2,500*l.*, in recognition of his merits as inventor of the Safety Lamp. In a codicil to his will Sir Humphry left this service of plate to Lady Davy for her use during her life, with instructions that after her death it should pass to other members of the family, with the proviso that, should they not be in a situation to use or enjoy it, it should be melted and given to the Royal Society, to found a medal to be awarded annually for the most important discovery in chemistry, anywhere made in Europe or Anglo-America.

On Sir Humphry's death the service of plate became the property of his brother, Dr. John Davy, F.R.S., who, in fulfilment of Sir Humphry's intentions, bequeathed it after the death of his widow, or before if she thought proper, to the Royal Society, to be applied as aforesaid. On the death of Mrs. Davy the plate was transferred to the custody of your treasurer, and, having been melted and sold, realised 736*l.* 8*s.* 5*d.*, which is invested in Madras guaranteed railway stock, as set forth in the treasurer's balance-sheet. The legacy duty was repaid to the Society by the liberality of the Rev. A. Davy and Mrs. Rolleston.

The style and value of the medal, and the steps to be taken in reference to its future award, are now under the consideration of the Council, and will, I hope, be laid before you on the next anniversary. The acceptance of the trust has not been decided upon without long and careful deliberation, nor without raising the question of the expediency of recognising scientific services and discoveries by such trivial awards as medals, and of the extent to which the awards entrusted to our Society are depreciated by their multiplication. My own opinion has long been that some more satisfactory way of recognising distinguished merit than by the presentation of a medal might be devised, and that the award might take a form which would convey to the public a more prominent and a more permanent record of the services of the recipients, such as a bust or a portrait to be hung on our walls, or a profile or a record of the discovery to be engraved on the medal, which might be multiplied for distribution or sale to Fellows and to foreign Academies. In short, I consider awards of medals without distinctive features to be anachronisms; it is their purpose, not their value, which should be well marked; and the question is, whether that purpose is well answered by their being continued under the present form.

Instruments.—The small but remarkable, and, indeed, classical collection of instruments and apparatus belonging to the Society, and for which there was no accommodation in old Burlington House, was, on our migration from Somerset House in 1857, by order of the Council, deposited in the Observatory in the Kew Deer-Park, near Richmond, then under the control of the British Association.

The instruments have been now for the most part brought back and placed in our instrument-room, and will, I hope, at no distant period be accessible to the Fellows.

SCIENTIFIC SERIALS

Cosmos, Guido Cora's Italian Geographical Journal, Nos. 4 and 5 (in one), contains a long and carefully compiled article on Italian travellers in Egypt from 1300 to 1840; Payer and Weyprecht's official account of the Austro-Hungarian Arctic Expedition; and the continuation of F. M. Prscevalski's exploration of Eastern Mongolia and Thibet. There are, besides, Notes on Gordon's Nile Expedition,—an Austrian naturalist, Ernst Marno, has been appointed to accompany Col. Gordon; there is a short account of the travels of a Persian youth, Abdul Kerim, in Tunisia. The part contains an excellent map of the border region between Persia and Beluchistan, compiled from the maps of Major St. John and the English Admiralty.

SOCIETIES AND ACADEMIES

LONDON

Anthropological Institute, Dec. 22.—Prof. Busk, F.R.S., president, in the chair.—Mr. J. Park Harrison exhibited tracings of late Phœnician characters from the south-west of

Sumatra. They are said to be still in use, and differ entirely from early letters in other parts of the island. The natives have a tradition that some descendants of Alexander settled there; and if Nearchus' second expedition, the account of which is lost, reached the Bay of Bengal, the date, Mr. Harrison considered, would agree sufficiently well with the letters. His sailors were principally Tyrians.—Col. Lane Fox read a paper on early modes of navigation, in which he described the various contrivances employed by savage races for transit on the water. Commencing with the simple trunk canoe, the author traced the development of the art of boat and ship-building through the stages of stitched plank canoes, bark canoes, rafts, outrigger canoes, single and double, the double canoe, the variation of hull, the weather platform, the rudder, and the rude sail, and gave the distribution of their many forms and modifications. It was argued that the rude bark float of the Australian, the Tasmanian, and the Ethiopian, the catamaran of the Papuan, the dug-out canoe of the New Zealander, and the built-up canoe of the Samoan, were survivals representing successive stages in the development of the art of shipbuilding, not lapses to ruder methods of construction as the result of degradation; that each stage supplies us with examples of what at one time was the perfection of the art countless ages ago. Some of the more primitive kinds spread over nearly the whole world, whilst others had a more limited area of distribution. Taken together, they enabled us to trace back the history of shipbuilding from the time of the earliest sculptures to the commencement of the art.

Victoria (Philosophical) Institute, Jan. 4.—A paper by Mr. J. E. Howard, F.R.S., entitled "Early Dawn of Civilisation considered in the Light of Scripture," was read by the author.

BERLIN

German Chemical Society, Dec. 14.—A. W. Hofmann, vice-president, in the chair.—Two physiological researches of interest were communicated by Prof. Jaffé, of Konigsberg. Nitrobenzol being poisonous, it appeared reasonable to expect, what experiments fully bore out, that ortho-nitrotoluol, which resists oxidation most completely, should be more poisonous than the two isomeric bodies. *Para-nitrotoluol* is almost without effect upon the health of dogs. Five grains daily were given for several weeks without producing more than a slight inflammation of the mucous membrane of the stomach, and at last jaundice. The urine contained *nitrobenzoic acid* (*para*), but a comparatively small quantity of it only. The rest of the substance had become transformed into *nitrohippuric acid*. This acid was found combined with urea, and therefore insoluble in ether. As in similar experiments, when substituted toluols or benzoic acids had been given to animals, substituted hippuric acids had not been found in the etherial solution, it is not improbable that such acids, though not found, were yet present in the shape of urea compounds. *Para-nitrohippuric acid* constitutes orange prisms, fusing at 129°, and forming well-defined salts with barium and with silver, different from a nitrohippuric acid formerly described by Bertagnini. In the urine of one individual dog a new substance has been discovered by the same *savant* in the following manner:—The alcoholic extract precipitated with H_2SO_4 yielded sulphate of urea, soluble in water, and the sulphate of *a new base*, $C_6H_6N_2O_2$, which combines with one molecule of HCl, but has a sour reaction, and dissolves baryta. It forms prisms, melting and decomposing at 213°. The dog has unfortunately been lost.—Messrs. Forst and Zincke, in re-preparing a product formerly prepared from silver by Limpricht and Schwanert, and described as two substances isomeric with hydrobenzoin and isohydrobenzoin, $C_{14}H_{12}(OH)_2$, have found this opinion to be erroneous; their experiments yielding but a mixture of the two latter bodies. There are, therefore, only two, and not four hydrobenzoins in existence.—M. Wroblewsky described meta-acetyltoluol, prepared from meta-bromotoluol, a liquid boiling at 158°, and yielding isophthalic acid and two isomeric sulpho-acids.—A. Ladenburg has undertaken the useful task of submitting to rigid experiments the opinion generally adopted, that the position of *one* lateral chain in benzol is indifferent with regard to the substance thus constituted; in other words, that no isomeric aromatic bodies can exist with only one lateral chain. He showed this time the identity of ordinary benzoic acid with benzoic acid prepared from phenol, and the complete identity of the three phenols prepared from the three different oxybenzoic acids. The proof will have to be completed by further researches, in which Mr. Ladenburg is still engaged.—Messrs. Michaëlis and Ananoff have undertaken researches respecting the constitution of phosphorous acid, for which they have established the formula $HP = O(OH)_2$. Without entering into details, we can only say that the method consisted in the action of $C_6H_5PCl_4$ on phosphorous acid, when no phosphorous chloride, PCl_3, but only oxychloride, PCl_3O, was formed. They have also prepared a monobasic phenylphosphorus acid, $C_6H_5P = O(OH)H$.—Prof. Nilson, from Upsala, described as the best method for extracting *selenium* the treatment of the flue-dust with cyanide of potassium.—T. Piccard has found in the sperma of the salmon, besides a new base, *protannin*, lately described by Mieschke, also *sarkin* and *guanin*.—C. Schisbler described a volumetric method for determining CO_2 in carbonates without introducing temperature and barometric pressure into the calculus. The method consists in making a "normal" analysis with a pure carbonate and comparing the volume of CO_2 obtained with that of the unknown quantity of CO_2 yielded by the substance analysed the same day.—H. Uppenkamp described hexylic sulphocyanide and isosulphocyanide.—C. Biedermann and L. Ledoux reported on the formation and properties of mesitylenic phenol, $C_9H_{12}O$.—A. W. Hofmann communicated his researches on fractions of beech-tar distilling above 260°. By oxidation they yield a phenolic substance, $C_{11}H_{16}O_3$, in which H_2 may be replaced by Br_2, and a quinone, $C_5H_8O_4$, which takes up H_2 when treated with reducing agents. Prof. Hofmann further reported on the following experiments of Mr. M'Creath:—The action of water on guanidine, CH_5N_3, consisting in the loss of ammonia and the formation of urea; the action of anhydrides has been studied, when it was found that benzoic anhydride acts on guanidine in a similar way, producing ammonia and dibenzoyl-urea.—A. Oppenheim has submitted crystallised pure glycerine to distillation. The boiling point corrected proved to be very constant at 290°. Nearly every manual and dictionary of chemistry contains erroneous data in this respect, although the same number has already been published in 1860 by Mendelejeff.

PARIS

Academy of Sciences, Dec. 28, 1874.—This was the anniversary meeting of the Academy, an account of which appeared in last week's NATURE, p. 178.

BOOKS AND PAMPHLETS RECEIVED

COLONIAL.—On the General Theory of Duplex Telegraphy: Louis Schwendler (Asiatic Society of Bengal).—On Earth Currents: Louis Schwendler (Asiatic Society of Bengal).—Second Annual Report of the Secretary of Agriculture of Victoria (Melbourne, Australia).

FOREIGN.—Anthropologische Beiträge: Georg. Gerland (Max Niemeyer, Halle).—Classification de 160 Huiles et Graisses Vegitales. 2nd Edition: M. Bernardin (Annoot-Brackman, Gand).—A. Dobsinai Jegbarlang: Dr. Krenner Jozef Sandor, Die Eishöhle von Dobschau, Dr. Jos. Alex. Krenner (K. Ungar, Budapest).—Jahrbuch der Kaiserlich-Koniglichen Geologischen Reichsanstalt, Band xxiv. (Wien)—Az Arapály Fumei Obölben: E. Stahlberger (K. Ungar, Budapest)—Essai sur la Vie et les Ouvrages de L. A. J. Quetelet (F. Havez, Brussels).—Verdhandlung des Naturhistorischen Vereins der Preussischen Rheinlande und Westfalens: Dr. C. J. Andrà (Max Cohen und Sohn, Bonn).—Sitzungsberichte der neiderrheinischen Gesellschaft für natur, und Heilkunde zu Bonn (Max Cohen und Sohn, Bona)—Memoires de la Société de Physique et d'Histoire Naturelle de Genève, vol. xxii. Part ii. (Ramboz et Schuchardt, Genève).

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